DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 70.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-002692
Date Inspected: 23-May-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Japan Steel Works

OSM Arrival Time: 830
OSM Departure Time: 1930
Location: Muroran, Japan

CWI Name:	C. Kuan, M. Ashadi			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Tower, Jacking and Deviation Saddles

Summary of Items Observed:

The following report is based on METS observations at Japan Steel Works (JSW) in Muroran Japan. Current work: Casting, machining and nondestructive testing of Saddles.

Fabrication Building number 4

At 0930 hours, the Caltrans Quality Assurance (QA) inspector arrived at JSW fabrication shop number 4 and observed the continued procedure qualification test designated SW-3 performed by JWS welding personnel Mr. Kouzou Kabayashi, identified as number 08-5023. The welding was performed utilizing the gas shielded flux cored arc welding process in the Flat (1G) position. The base material appeared to be 50mm thick ASTM A709M Grade 345T. The filler metal electrode appeared to be brand name Tri Mark TM-55E70t-5CJ-H4. The welding was performed per the AWS D1.5, 2002 Section 5.13 requirements. The Intertek QC inspector, Mr. Chung-Fu Kuan recorded the preheat and interpass temperatures, the average amperage, voltage and the travel speed for all weld passes completed on this date. The QA inspector noted that one weld pass the previous day had the welding travel speed 18 percent above the other weld passes. The QA inspector had informed the QC inspector, Mr. Kuan that the travel speed exceeded the allowable 10 percent variation in accordance with the contract special provisions section 8-3.01 Welding and Mr. Kuan had elected to allow the welding of this test plate to continue. The welding of this plate was completed on this date. The QA inspector noted that the welding did not appear to meet the minimum requirements of AWS D1.5-2002 and the contract documents. A Welding Witness Report (TL-6032) was issued and Caltrans Witness lot number B31-034-08 was assigned for tracking purposes.

On this date the QA representative Joe Lanz monitored the in process the continued assembly fit-up operation of

the structural steel plates for the West Deviation Saddle W2E1. Tack welding was performed at locations in between tack welds that had been done previously. The JSW welding personnel Yoshihiro Ohta, identified as number 08-2017 continued the in process tack welding assisted by Koanagi-Kiyotaka, utilizing the Shielded Metal Arc Welding (SMAW) process per the welding procedure specification (WPS) SJ-3011-1, SJ-3011-2, SJ-3011-3 and SJ-3011-4. The welding was performed in the 2G (Horizontal) and 3G (Vertical) positions. The filler metal utilized was identified as 4.0mm and 4.8mm diameter, Class E9018-M-H4R, Brand name Hoballoy 9018-M. The welding parameters and heat control were monitored by Intertek Testing Services Quality Control (QC) inspector Mr. Makhmud Ashadi at periodic intervals. The minimum preheat temperature of 160 degrees Celsius and maximum interpass temperature of 260 degrees Celsius was verified to meet the WPS requirements by Mr. Ashadi and the QA inspector utilizing Tempilstik temperature indicators. This data was entered into the QC inspector's daily log, identifying the location on a weld map. The SMAW welding average amperage and voltage by clamp type meter and travel speed were verified to be within the welding procedure specification parameter range of 245 amps to 270 amps, 22 volts to 25 volts and travel speed of 132 to 168 mm per minute for the 4.8mm electrode and 145 amps to 165 amps, 21 volts to 24 volts and travel speed of 72 to 97 mm per minute for the 4.0mm electrode by the QA inspector. The work was not completed on this date and appears to meet the minimum requirements of the welding procedure specification and contract documents.

Summary of Conversations:

There were general conversations with Japan Steel Works Ltd. representative Mr. Kunio Nagaya relative to the location of the welding and inspection personnel in the fabrication shop.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Venkatesh Iyer, (858) 967-6363, who represents the Office of Structural Materials for your project.

Inspected By:	Lanz,Joe	Quality Assurance Inspector
Reviewed By:	Brasel,Ron	QA Reviewer